MEADOW LAKE COUNTY WATER DISTRICT

Montana Public Water Supply ID number 00914

2022 Water Quality Report

In a continuing effort to keep you informed about the quality of water and services we provide to you each day, we're pleased to once again provide you with our Annual Water Quality Report. This report is a snapshot of the quality of water we provided you last year. It includes details regarding the source of your water, what your water contains and how it compares to EPA and the State of Montana standards.

Our drinking water comes from two wells: Well #1 is 734 feet deep; Well #2 is 719 feet deep. We have 330 service connections on our system and added five new connections last year. We want you our valued customers, to be informed about your water utility. If you want to learn more, please attend any of our meetings which are announced on our web site at: www.meadowlakemontana.com/waterdistrict.cfm and held in the conference room at 494 St Andrews Drive.

Our drinking water is safe and meets federal and state requirements. If you have any questions about this report or concerning your water utility, please contact Marc Liechti at Alpine Pacific Utilities at (406) 393-2126. Marc is our certified operator with over 15 years of experience. He attends periodic training sessions to meet continuing education requirements. The most recent training he received was in August of 2020.

DID YOU KNOW? The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and in some cases radioactive elements. Water can also pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in water include:

1) Microbial contaminants such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
2) Inorganic contaminants, such as salts and metals which can be naturally occurring or result from urban storm water runoff, industrial or domestic waste water discharges, oil and gas production, mining and farming.
3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
4) Volatile organic chemicals, which are byproducts of industrial processes, petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
5) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. We routinely monitor for contaminants in your drinking water according to Federal and State laws. We take all of our water samples to Montana Environmental Laboratory in Kalispell (406-755-2131). They are a private laboratory that is certified by the State of Montana and the EPA to analyze drinking water.

Our sampling frequency complies with EPA and state drinking water regulations. The following tests were performed to identify possible contaminants in our system during the period of January 1 to December 31, 2022:

- 12 coliform bacteria tests – all were coliform free.
- One nitrate plus nitrite test on each of our wells – results were within EPA guidelines.
- 10 tests on the water from our customers' homes to determine the possible presence of lead and copper leaching out of the faucets and fixtures – results were within EPA guidelines.
- Tests on each of our wells to determine the possible presence of eleven inorganic contaminants – results were within EPA standards.
- Tests on each of our wells to determine the possible presence of 61 organic contaminants – none were detected.
- Tests on well #1 to determine the possible presence of 40 pesticides & herbicides – none were detected.
- Tests on well #1 to determine the possible presence of cyanide, PCB's, and 27 EPA regulated organic contaminants to renew a state monitoring waiver – none were detected.
- Tests on well #2 to determine the possible presence of 21 pesticides – none were detected.
- Tests on each of our wells to determine the possible presence of radiological contaminants – results were within EPA guidelines.

The following table lists the contaminants detected during recent testing. Some of our data in the table is more than one year old, since certain chemical contaminants are monitored less than once a year.

Regulated Contaminants

CONTAMINANT	VIOLATION Y/N	SAMPLE DATE	HIGHEST LEVEL DETECTED	UNIT MEASURE-MENT	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Barium Well #1 Well #2	N	9-20-22	0.17 0.15	ppm	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Copper	N	9-29-22	90th % is 0.08	ppm	1.3	AL= 1.3	Corrosion of household plumbing/naturally occurring
Fluoride Well #1 Well #2	N	9-20-22	0.12 0.10	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
Lead	N	9-29-22	90th % is 2	ppb	0	AL=15	Corrosion of Household plumbing / naturally occurring
Nitrate + Nitrite Well #1 Well #2	N	9-20-22	0.20 0.22	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Uranium Well #1 Well #2	N	9-20-22	1.1 1.4	ppb	0	30	Erosion of natural deposits

Unregulated Contaminants

CONTAMINANT	SAMPLE DATE	HIGHEST LEVEL DETECTED	UNIT MEASUREMENT	LIKELY SOURCE OF CONTAMINATION
Hardness	5-5-20	244 = 14.3	ppm Grains per gallon	Naturally occurring

DEFINITIONS:

MCL - Maximum Contaminant Level - The "Maximum Allowed" is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG - Maximum Contaminant Level Goal - The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

PPM - Parts per million or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

PPB - Parts per billion or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

AL - Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

pCi/L - Pico Curies per Liter - a very small unit of measurement of radioactivity.

What does this table tell us?

As you can see our system had no MCL violations. MCL's are set at very stringent levels. To understand the possible health effects of exceeding the MCL, a person would have to drink two liters of water every day at the MCL for a lifetime to have a one in a million chance of having any adverse health effects. Although we have learned through our monitoring and testing that some constituents have been detected, the EPA has determined that your water IS SAFE at these levels.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or manmade. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or online at www.epa.gov/safewater.

Lead in drinking water comes primarily from materials and components of the service lines and home plumbing systems. It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. Our water system is responsible for providing high quality drinking water, but we cannot control the variety of materials used in private home plumbing systems. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested by a certified laboratory like the one we send our samples to (Montana Environmental Laboratory, 406-755-2131). When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap until the water temperature has stabilized (usually for 30 seconds to 2 minutes) before you use the water for drinking or cooking. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure to lead is available from the Safe Drinking Water Hotline 1-800-426-4791, or online at www.epa.gov/safewater/lead.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline, or online at www.epa.gov/safewater .

In August of 2005, the Montana Department of Environmental Quality conducted a source water assessment of our system. This report provides additional information on the potential vulnerability of our wells to contamination. This report is available for review from Barb Riley. It is also available online at: https://deq.mt.gov/water/programs/dw#accordion1-collapse2. The report can be summarized in the following table:

Significant Potential Contaminant Sources

Source	Contaminant	Hazard	Hazard Rating	Barriers	Susceptibility	Management Recommendations
Sewer lines associated with and surrounding the homes and businesses of meadow lake resort	Sewage, Nitrates Pathogens, SOCs, VOCs, metals, others	Ongoing or catastrophic leakage of sewage into ground water. This happens mostly when these systems fail or are poorly maintained.	Low Hazard	Depth of well intake below the static water level in the well (~635 feet). Thickness of unsaturated sediment above the static water level (~100 feet). Vertical upward groundwater gradient (the water is under pressure, thus it rises up in the well casings).	Very Low Susceptibility	Support maintenance, rehabilitation, or replacement of existing sewer mains; use of sewer main liners; and rapid response planning for leaks or ruptures.
Golf Course fairways, greens, and landscape maintenance	Nitrates, SOC's	Contaminants leaching into groundwater. This would be due to the application of chemicals for routine maintenance purposes or releases due to spills or improper storage, handling, or disposal of landscape chemicals.	Low Hazard	Depth of well intake below the static water level in the well (~635 feet). Thickness of unsaturated sediment above the static water level (~100 feet). Vertical upward groundwater gradient (the water is under pressure, thus it rises up in the well casings). Use of recycling programs to remove unused chemicals. Use of integrated pest management programs.	Very Low Susceptibility	Use of best management practices (BMPs) for chemical handling, disposal, and application and the development of an integrated pest management plan, all of which should be protective of surface water and ground water. Place notices at sinks and floor drains (as in field house, maintenance shops, and janitorial closets) advising on proper handling and disposal of chemicals. Eliminate shop floor drains, as EPA regulates these as Class V Underground Injection Wells. These are a significant source of pollution to groundwater. Provide supplemental training and guidance to landscape workers in chemical handling and disposal.

Our water system is committed to providing our customers with safe, pure water and we are pleased that our water meets or exceeds all established state and federal standards. Thank you for reviewing this report.

Prepared by Montana Environmental Lab, LLC 3/23